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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,722	03/29/2001	Martin R. Handforth	13888ROUS02U	4607
34845	7590	10/05/2005	EXAMINER	
STEUBING AND MCGUINNESS & MANARAS LLP			NORRIS, JEREMY C	
125 NAGOG PARK			ART UNIT	
ACTON, MA 01720			PAPER NUMBER	
			2841	

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/821,722

Applicant(s)

HANDFORTH ET AL.

Examiner

Jeremy C. Norris

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-33 is/are pending in the application.
- 4a) Of the above claim(s) 7-11 and 14-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6, 12, 13 and 29-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5, 6 and 13 rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,219,292 (Dickirson).

Dickirson discloses, referring to figures 3-5, an interconnection device comprising: first (75) and second (74) outer layers, each including substrate material, and at least one inner layer (42) including at least one conductive signal trace (79) disposed on a rigid (see col. 3, lines 25-30) substrate material proximate to an edge of the interconnection device and being accessible for direct electrical connection with a corresponding exposed signal trace (39) wherein at least one conductive protrusion (solder, see col. 5, lines 20-25) is formed on said conductive inner layer trace (claim 1), wherein said conductive inner trace layer trace extends outward from the edge of the interconnection device (claim 2), wherein at least a portion of said first outer layer is removed to provide access to said conductive inner layer trace (claim 3), wherein said protrusion is malleable (claim 51, wherein said protrusion is resilient (claim 6), wherein said inner layer substrate material is organic (see col. 5, lines 25-30) (claim 13).

Dickirson does not disclose a shielding disposed around the at least one signal trace. However, providing shielding to reduce cross talk and electromagnetic interference to have a better performance of the device is old and known in the art.

Therefore, a person of ordinary skill in the art at the time of applicant's invention would have been motivated to provide the shielding around the trace of the structure of Dickirson, to reduce cross talk and electromagnetic interference to have a better performance of the device as it is old and known in the art.

3. Claims 12 and 29-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khandros et al., US Patent No. 5,917,707 (Khandros).

Khandros discloses, referring to figure 33, an interconnection device comprising, a printed circuit board having first (537) and second (539) outer layers, each including substrate material', and at least one inner layer including at least one conductive signal trace (542) disposed on substrate material proximate to an edge of the interconnection device and being accessible for direct electrical connection with a corresponding signal trace, wherein said inner layer substrate material is a ceramic (see col. 20, lines 25-30) (claim 12), wherein said conductive inner layer trace extends outward from the edge of the interconnection device (claim 29), wherein at least a portion of said first outer layer is removed to provide access to said conductive inner layer trace (claim 30), wherein at least one conductive protrusion (552) is formed on said conductive inner trace (claim 31), wherein said protrusion is malleable (claim 32), wherein said protrusion is resilient (claim 33).

Khandros does not disclose a shielding disposed around the at least one signal trace. However, providing shielding to reduce cross talk and electromagnetic interference to have a better performance of the device is old and known in the art.

Therefore, a person of ordinary skill in the art at the time of applicant's invention would have been motivated to provide the shielding around the trace of the structure of Khandros, to reduce cross talk and electromagnetic interference to have a better performance of the device as it is old and known in the art.

Response to Arguments

4. Applicant's arguments with respect to claims 1-3, 5, 6, 12, 13 and 29-33 have been considered but are moot in view of the new ground(s) / new explanation of the rejection.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy C. Norris whose telephone number is (571) 272 1932. The examiner can normally be reached on M-F (8:30 - 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (571) 272 1957. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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October 2, 2005



K Cuneo
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